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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,586	11/28/2003	Christopher M. Bishop	305414.01	9877

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EXAMINER	
SILVER, DAVID	

ART UNIT	PAPER NUMBER
2128	

NOTIFICATION DATE	DELIVERY MODE
09/14/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Advisory Action Before the Filing of an Appeal Brief	Application No. 10/724,586	Applicant(s) BISHOP ET AL.	
	Examiner David Silver	Art Unit 2128	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 27 August 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See continuation sheets. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: _____.
- Claim(s) objected to: _____.
- Claim(s) rejected: _____.
- Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

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1. Amendment of claim independent claims 39, 50, 61 and newly presented claims 71 and 72 require further search and consideration.

2. **Background:**

Claims 1-70 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The Office Action states that the claimed invention lacks a real-world practical application.

3. **Applicants argue:**

"Claim 1 has been amended to recite "outputting the probability density for modeling the input set of data" (emphasis added). Independent claims 14 and 27 have been amended similarly as claim 1. The Applicant submits that the instant § 101 rejections have been overcome. Accordingly, the Applicant respectfully requests that the instant § 101 rejections be withdrawn." (Remarks dated 8/27/06: page 16)

4. **Examiner Response:**

Applicants' response is at best a conclusionary statement. The claimed modeling is not a practical application but a generalized statement. A real-world practical application is neither claimed nor disclosed in the Specification. The claimed invention is drawn merely to subject matter that represents nothing more than an idea of probabilistic density modeling without a practical real-world application thereof.

5. **Background:**

Claims 1-70 stand rejected under 35 U.S.C. § 112P1 as failing to comply with the written description requirement. As per claims 1-70, the Office Action states that the specification does not explain what makes an approximation "tractable."

6. **Applicants argue:**

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"The Applicant submits that one skilled in the art would recognize that the Applicant had possession of the claimed invention at the time of filing. One of ordinary skill in the art would understand "tractable" approximation especially when considered in contrast to an "intractable" approximation. The Examiner's attention is directed to page 9, lines 9-14, of the Applicant's specification as originally filed and repeated here:

Exact inference of the Bayesian model is intractable. However, with the choice of exponential distributions to represent the prior distributions of the modeling parameters, tractable approximations are possible. In one implementation, for example, a tractable approximation may be obtained through Monte Carlo techniques.

The specification as originally filed provides meaning to one skilled in the art as to "tractable" approximation. On page 9 of the Office Action, the Examiner asks how is a tractable approximation performed; the Applicant discloses in the specification that implementations may use Monte Carlo techniques and variational inference (specification, page 9, lines 13-14). A variational inference implementation is described in detail on at least pages 9-14 of the specification." (Remarks: page 17)

7. **Examiner Response:**

Applicants' statements are conclusionary without providing evidence to counter the Examiner's position. Applicants have merely stated that one of ordinary skill in the art would understand "tractable" approximation especially when considered in contrast to an "intractable" approximation without providing evidence to support the position.

8. **Background:**

Claims 1-70 stand rejected under 35 U.S.C. § 112P2 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Office Action states that the term "tractable" is relative and ambiguous, and therefore renders the claims indefinite.

9. **Applicants argue:**

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"As discussed above, one of ordinary skill in the art would understand "tractable" approximation as recited in the claims especially when considered in contrast to an "intractable" approximation as taught in the Applicant's specification as originally filed.

In view of the above, the Applicant submits that the instant § 112P2 rejections as to indefiniteness have been overcome. Accordingly, the Applicant respectfully requests that the indefiniteness rejections be withdrawn." (Remarks: page 18)

10. **Examiner Response:**

Applicants' statements are conclusionary without providing evidence to counter the Examiner's position. See Final Rejection dated 6/25/07 for the detailed explanation of how the term "tractable" renders the claims indefinite.

11. **Background:**

Claims 1-6, 8-11, 14-19, 21-24, 27-31, 33-36, 39-44, 46-55, 57-65 and 67-70 stand rejected under 35 U.S.C. 102(b) as being anticipated by Heckerman (US 5,704,018). Claims 12-13, 25-26, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heckerman (US 5,704,018) and further in view of Official Notice.

12. **Applicants argue:**

"Heckerman fails to disclose using an unselected modeling parameter characterizing the univariate t-distribution and using input data to compute an approximation of a selected modeling parameter."

(Remarks: page 19)


13. **Examiner Response:**

The claimed limitation recites: "computing a tractable approximation of a posterior distribution for the selected modeling parameter based on an input set of data and a current estimate of a posterior distribution of at least one unselected modeling parameter in the plurality of modeling parameters."

The situation is two-fold. Firstly, the "unselected" parameters are effectively and functionally equivalent to the selected modeling parameters because the approximation (estimates) are being

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performed on both the selected and unselected parameters. Therefore, calling parameters "unselected" while still processing merely gives them a label of being "unselected" while not altering their function. Merely labeling something is not given patentable weight because it does not provide a functional or structural change in the claimed invention. Secondly, the Heckerman reference indeed discloses using unselected modeling parameters characterizing the univariate t-distribution and using the input data to compute the claimed approximation (**col: 16 line: 38-46**). The unselected parameters are inherently disclosed because Heckerman performs the claimed feature on the entire domain for all parameters (**col: 3 line: 11-13**).



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